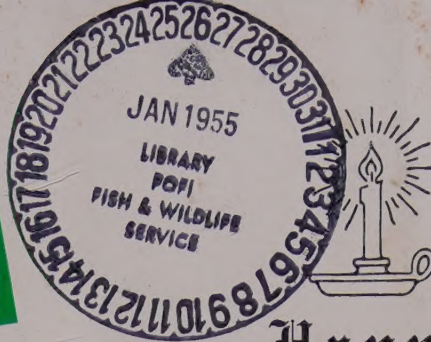


PAN AMERICAN fisherman

ESTABLISHED 1947



10
20
23

Happy
New Year

1910

1955-56



\$3 A YEAR

January
1955



U.S. Savings Bonds have a built-in fireman

And fire isn't the only thing Savings Bonds are protected against. They can't be lost or stolen or destroyed in any other way. For Savings Bonds are registered in your name. They can be replaced at any time. And that makes them even safer than cash.

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When you've held Bonds for ten years, there's no need to bring them in to renew them. Just hold on to them and let them grow... for a total increase of 80%!

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But they do cut down the "blow" for those who are ready. Last February, when the dust storms hit, there were certain farmers who were lots better set than others.

Disaster — floods, dust, hail — can strike from nowhere. And when they do, everything you've worked so hard for can go, just like that. That's why the only really adequate protection from the elements is a backlog of savings built up over the years. And one of the best ways to build up such a backlog is by putting part of every year's earnings into U. S. Savings Bonds.

For Bonds help make your saving *systematic*. Every \$300 put away now will mean \$400 to you

in 9 years, 8 months... \$538.72 in less than twenty years. So you can save now and plan ahead to the time when you'll need it for machinery replacements, a new barn or even the children's education. And if you're ever pressed for funds, you've got something to help you along and get you started again.

So don't put off starting your Bond plan. They're easy to buy at your nearest bank. There's no red tape. And the best time to buy your first is *right now!*

LOS ANGELES HARBOR BUSY

Los Angeles Harbor recently completed the best year in its 100-year history, both in cargo tonnage and gross receipts, according to figures released by Bernard J. Caughlin, general manager of the city-owned facility.

Estimated totals for the past fiscal year show that 26,200,000 tons of cargo moved across the port's wharves, an increase of 1,437,413 tons over the preceding year's total. Gross receipts of \$5,541,248 reflected an increase of \$315,032 over the receipts reported for the previous year.

One hundred and sixty more ships entered the port during 1953-54 than during 1952-53, with the arrival of foreign vessels continuing to show a marked upward trend.

"Los Angeles' municipal harbor has led all other Pacific Coast ports in tonnage since 1923," Mr. Caughlin said. Occupying over 7,000 acres and having 28 miles of waterfront, it is a \$150,000,000 enterprise. Oper-

ating entirely without the use of tax money, its expansion and improvement program is financed from revenues accruing from dockage, wharfage, rentals and fees.

"Since World War II, the Board of Harbor Commissioners has authorized over \$25,000,000 worth of new construction," it was stated by Lloyd A. Menveg, board president.

If international relationships in the next few years permit the continued broadening of the vast markets of the Orient, Los Angeles will become the nation's top seaport, Mr. Menveg believes.

The Salmon Situation

A can of salmon used to be a staple economy item in many American kitchens, but now it's in the luxury class.

Today unhappy salmon canners admit they've been pricing themselves out of the market. Other troubles arise from declining runs

of salmon, inflation in Alaska and an overcrowded industry.

An economist of the Seattle-First National Bank stated it: "Too many fishermen, too many boats, and too many canneries seeking support from a resource that is not only limited but declining."

According to an Associated Press dispatch from Seattle, this is the sad story of the salmon industry—which up to now has taken some \$2,000,000,000 out of Alaskan waters—more than gold miners ever got from the rivers and mountains.

The salmon pack has been declining steadily for some time, so the U. S. Fish & Wildlife Service plans to close some fishing areas entirely this year, and reduce fishing time in other waters in the hope of restoring the depleted salmon population.

Canneries want to cut the prices paid to fishermen this year, in an effort to bring the cost of salmon back into the range of the average family budget.

However, union leaders say the fish price must be maintained to meet the high costs of living and fishing and the risks of the catch.



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FOR WOOD AND
METAL BOTTOMS**

INTER-TROP NO. 50

... International Paint's Protection Against
Fouling of All Kinds

Inter-Trop No. 50's toxic qualities have been tested in arctic and equatorial waters alike with this result: *High resistance to every type of fouling growth and worms.* Easy to apply because formulated with a full body; and Inter-Trop is economical because it is laboratory-engineered for long life.

Interlux SILVER PRIMOCON

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At marine paint stores and depots throughout the world, or write for descriptive literature.

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World's Largest Marine Paint Makers



How you can help us contact you faster

Ship-shore telephone calls will reach you faster—and you won't risk missing any—if you'll follow these two suggestions:

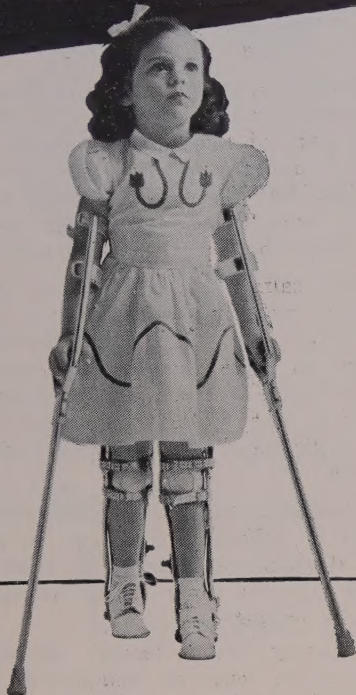
1. Tune in daily to the Marine Operator's broadcasts of calls being held.
2. Set up a listening schedule and tell friends and business associates the best hours to reach you.

For added convenience, put in selective signalling. Then operators can dial you direct. This eliminates the need of listening for calls other than your own.



Pacific Telephone

FIGHT POLIO!



NO POLIO VACCINE CAN HELP THIS CHILD. While science works to protect healthy kids against polio, those already stricken are fighting to live and play again.

They need expert treatment. They need costly equipment—iron lungs, rocking beds, braces. They need **YOUR** financial support to meet the crushing cost of rehabilitation. Help them fight back—give voluntarily!

Join the
**MARCH
OF DIMES**

January 3-31

Retailer Viewpoint On

Selling Fishery Foods

PACKERS of frozen foods were recently given an opportunity to hear the retailers' side of "Merchandising frozen foods" at a National Frozen Foods convention. The following "do's and don'ts" for frozen-food packers were stressed by one retail representative from the Pacific Coast:

"Continued study for improved quality and new varieties is most important to the continued progress of the industry.

"Attractive and practical packaging for more consumer eye appeal and quality protection can best be handled at packer level. Also, casing of product in line with distributor organization surveys for proper number of units to minimize costly break-ups, and for proper case sizes for palletization and mechanical handling.

"Packers could well afford to work together to standardize on the most logical package size—the size for each product that would fill the greatest consumer need.

"We look to packers to continue research for new products with volume potential. New items add life to the industry, and buyers like them despite appearance to the contrary.

"Packers and their sales organizations are welcome also because of the sales and merchandising help supplied at both headquarters and retail level. A word of caution—please be certain the men sent to the field are well trained and that they have something to offer besides a visit.

"We look to packers and their representatives to supply a sound advertising program that will cause consumers to look for that label in the cabinet. In most cases, this means a program designed for the marketing area involved and aimed at a rifle-shot not shot-gun blast target.

"Don't force a lower profit structure on retailers...

"Have ample product to back up advertising and deals. Mystery can be rather intriguing, but not when it is the case of the missing case.

"It is our thought that this industry together through an exchange of ideas. We depend on the advice of those experienced in their fields, and we seek your suggestions; but, we ask for and appreciate the privilege of a continued exchange of ideas and experiences."

Frozen fishery products were mentioned prominently at this important meeting of packers, distributors, retailers and consumers, and considerable interest was shown in the wide variety of fish and shellfish displayed at the convention. The consensus seemed to be that fishery products have a great future—provided they meet the challenge that is developing in the other competitive food lines. *

Australia Considered for Tuna Fishing Development

A survey by research vessels of CSIRO (Commonwealth Scientific and Industrial Research Organization) is said to show South Australia as a promising area for tuna fishery development.

According to J. G. Crawford, Secretary of the Australian Department of Commerce and Agriculture, that country and U. S. interests are examining the possibility of establishing an Australian tuna industry on a firm basis. The report says that surveys have indicated that tuna are numerous in the waters east of Yorke Peninsula in summer, and in the waters along the west coast of Eyre Peninsula in autumn.

Southern Bluefin, the predominant species in South Australian waters, ranges from less than 19 lb. to over 90 lb. So far the smaller fish have been found mostly in the eastern waters of the State and the larger fish in the western waters.

Pilchards, which could be used for live bait, are common in South Australian coastal waters in summer and autumn. Pilchard shoals have been seen off the north coast of Kangaroo Island, the entrance to Spencer Gulf and the Investigator Group. Anchovies, also suitable for live bait, have been observed in good quantities at Coffin Bay and Cowell and in smaller numbers at many other places on the coast.

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About This Issue . . .

Welcome to California and good luck to you in a job that's important but tough — that's our greeting to Charles R. Carry, new manager of the California Fish Canners Association and well known in our industry because of his outstanding work with the Fisheries Division of the National Cannery Association in Washington, D. C. Details on page 17.

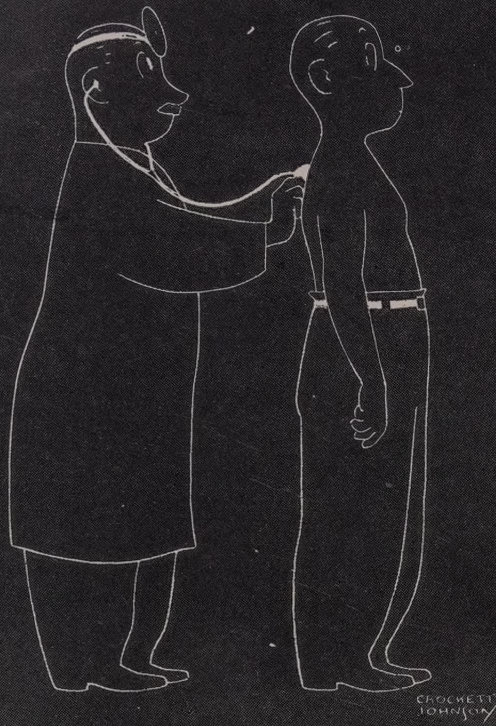
Last month we featured the two new tuna clippers launched by National Steel for the Soares brothers in San Diego. Latest reports say they headed south and have been doing well—just as you might expect from their ownership and their names, the Cabrillo and the Dominator.

In this identical spot in our last issue we ran some figures that grew up too big and too fast. That's what we get for running around with some government officials; what difference does a few billion make, anyway? Here's the story:

The ever-watchful Tuna Research Foundation, through statistician L. J. Thoreson, says we got the wrong figures from somebody about the consumption of canned tuna in America and "a more realistic figure would be near 540 million cans or 11¼ million cases." Of course these figures are increasing with each passing year. All of which is a lot of tuna, any way you figure it . . . and we're glad to set the record straight.

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...before it TALKS

... is the way our doctors put it—"Our chances of curing cancer are so much better when we have an opportunity to detect it *before it talks*."

That's why we keep urging you to make a habit of having periodic health check-ups, no matter how well you may *feel* ... check-ups that *always* include a thorough examination of the skin, mouth, lungs and rectum and, if you are a woman, the breasts and generative tract. Very often doctors can detect cancer in these areas long before the patient has noticed any symptoms in himself.

The point to remember is that most cancers are curable if properly treated before they begin to spread, or "colonize" in other parts of the body. . . For other life-saving facts about cancer, phone the American Cancer Society office nearest you or write to "Cancer"—in care of your local Post Office.

American Cancer Society



Report from *Washington*

Gleaned from the Nation's Capital by John Harms

TUNA TARIFF TROUBLES.--The tuna industry may know within a month or so whether it's to be a pawn in the intricate game of international politics --or whether Uncle Sam has decided the domestic industry is important enough to the national welfare to protect and encourage.

In February our trade experts, mostly from the State Department, go into lengthy huddles with the Japanese government officials at Geneva, Switzerland, to negotiate a system of trade incentives to help Japan ship more goods to the United States. This is part of our government's international policy to put Japan on a sound economic footing as a bulwark against communism.

To this end, the U.S. Tariff Commission and the Committee for Reciprocity Information have been holding hearings to find out on which commodities the U.S. can afford to make some concessions. The hearings covered a multitude of items which Japan exports. One of the most important . . . tuna.

It's probable that the U.S. stand on tuna imports--tariffs and quotas--will be kept top secret as long as possible. Earliest you can expect real information probably is February or later.

--O--

TARIFF COMMISSION RECOMMENDATIONS.--Now that all the evidence from last month's hearings is in, the Tariff Commission is shaking down what it thinks about tuna problems. It will then make recommendations to the President. Hard to say now what the Commission will recommend, but in the past it has not been too sympathetic to the tuna industry.

Don't look for a recommendation by the Commission to impose import quotas on tuna coming from Japan. The recent hearings were not conducted to investigate this proposal. And even if they were, it's not likely that the Commission would recommend import quotas, primarily because the President is known to oppose this type of restriction. Ike's thinking on this is made clear in earlier import cases---watches, clothes pins and such.

Tariff Commission hearings were held to determine the "peril point" below which duty rates on imports should not go.

--O--

VOLUNTARY JAP QUOTAS?--Tuna industry suggestions that the U.S. and Japan work out an agreement whereby Japan voluntarily restricts tuna exports to this country don't look like a good bet at this time.

Even though this method of bringing about smaller imports to the U.S. has been worked on oats from Canada and tung oil from South American countries, there is some question in legal circles here of constitutionality. Some experts think it's illegal to let another country limit

its exports to this country voluntarily on grounds that it takes over power reserved by the constitution for only our government. In other words, we would be letting other countries--like Japan--regulate our commerce.

--o--

STRONG OPPOSITION.--All segments of the tuna industry were represented at December 20 Tariff Commission hearings. A strong united argument was presented for protection from Japanese imports--which are at record levels--and pleas to block proposals to make it easier for foreign tuna to enter this country.

The impressive line-up of industry leaders against further concession and for more protection included: D. P. Loker, president of the California Fish Cannery Association, and James B. Lane, F. E. Hagelberg, and J. G. Scharer, also representing the CFCA; Harold F. Cary, general manager of the American Tunaboat Association; Michael J. Valicenti, National Steel and Shipbuilding Corp., of San Diego; E. L. Morris, Director of the Tuna Research Foundation, Long Beach; and Cliff B. Weitz, business manager of the Tuna Clipper Engineers, of San Diego.

Importers favoring freer imports of tuna were represented by D. J. Ward of Washington. He spoke for these firms: Francis H. Leggett & Co.; Frazar & Co.; Bien Trading Co., Inc.; and Catz American Co., Inc.

--o--

FACTS BROUGHT OUT.--Here are the highlights of the testimony presented before the Tariff Commission:

Harold Cary of the Tunaboat Association showed how Japanese tuna imports are taking over an increasing proportion of the domestic market. In 1948, the domestic producers' share of the market was 91 per cent. In succeeding years, it dropped to 85 per cent, 62 per cent, up to 75 per cent in 1951, then 66 per cent in 1952 and 60 per cent in 1953. Domestic producers had only about 56 per cent of the U.S. market in 1954. The Japanese had 1.3 per cent of the U.S. tuna market in 1948. By the end of 1954, they had 32 per cent.

Cary told the Commission that other industries get protection, but "the domestic fisherman is given no protection in the case of frozen tuna. He is thereby not only affected by the absence of a tariff or quota, but in his end of the industry is additionally affected by the increasing importation of canned products.

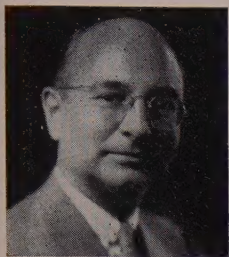
"It is still the opinion of the producer," Cary said, "that the solution to the difficulties lies in agreement between the governments of Japan and the U.S. on some basis whereby the domestic producer will not be destroyed, and the foreign producer will be enabled to participate in the growth of the market" which the domestic producer himself developed.

--o--

TUNA RESEARCHER.--E. L. Morris, director of the Tuna Research Foundation, offered exhibits which showed that imported tuna canned in brine is "entirely competitive" with domestic tuna canned in oil--selling at a discount of 8¢ to 10¢ per can.

This claim was disputed by D. J. Ward, representing importers. Ward claimed that "imported tuna in brine does not displace equivalent

(Continued on page 21)



The Publisher's Page



"Together We Thrive in '55'.—This slogan of the 1955 Pacific Automotive Show is particularly appropriate as our lead-off subject for the New Year. It indicates the welcome fact that we are all going to thrive if we will just plan and work together intelligently.

Today there is a well nigh universal feeling of good times and good cheer in America. It's about as unanimous as anything ever gets in a country that is absolutely free to say and do as it pleases.

We are not living in Utopia, we still are faced with a number of puzzling problems . . . and some that are downright unpleasant, such as high taxes and the Russians. But these didn't become giant Frankensteins over night, and they can't be whittled down in a flash.

As a country we are making headway in most major directions, and that's par for the course.

A Thought for the New Year.—The following statement by President Eisenhower strikes a responsive cord in most American hearts and minds. It is especially appropriate at the start of a New Year, but good for all times:

"The peace we seek, founded upon decent trust and cooperative efforts among nations, can be fortified—not by weapons of war—but by wheat and by cotton; by milk and by wool; by meat and by timber and by rice. Let us dedicate our strength to serving the needs, rather than the fears, of the world.

"These are words that translate into every language on earth . . . roads and schools, hospitals and homes, food and health. They conform to our firm faith that God created men to enjoy, not destroy, the fruits of the earth and of their own toil."

Era of Expansion Ahead.—One reason all the experts are optimistic about the future of American business is the fact that the country is growing faster than ever before—more babies, more inventions, more businesses, more opportunities. And of course all this adds up to more payrolls and more spending by the general public.

One of our favorite economists, A. W. Zelomek, president of the International Statistical Bureau, predicts the recovery in business activity will continue well into 1955 and make this year one of the best, if not the best, on record. He points out that the public has plenty of disposable income, and the healthy competition now existing in most lines means that (1) people are being encouraged to buy by proper merchandising methods, and (2) producers are offering improved models, better styling or greater values.

In the commercial fishing industry we all know that the days of easy selling, poor service and low quality have long since departed. This is not really bad . . . it simply means that people want good stuff and are willing to pay for it, so business goes to those who best supply it. You may have to whip up a bit to make the grade, but what's wrong with that?

Zelomek adds there is no 1929 depression lurking around the corner; too many changes have occurred, both within the U.S. and in the international position this country occupies. Technical developments and economic growth, modern research and production efficiency only need to be coupled with increased efficiency in distribution to make "good times" last well into the future.

Progress in This Industry.—The commercial fishing industry as a whole has recorded another year of progress. The sardines have come back to California, although the run was not as large as in "the good old days." The salmon runs in the Northwest picked up considerably this year over the last couple of dull seasons.

In the tuna industry, with which we are mostly concerned, the American nation is showing a healthy increase in the purchase of canned tuna. The packers and canners are doing a good job in promoting the sale of their products. But the pinch is on the boat owners and fishermen whose cargoes have to compete in price with the increasing number of boatloads of tuna brought in from Japan.

This problem is covered in detail on other pages of this magazine, and industry leaders are working zealously to come up with the right answer for the years ahead.

How Much Tuna in 1955?—Over a half billion cans of tuna or an average of more than three cans per person, will be consumed in the United States this year, according to trade estimates recently released by the Fish & Wildlife Service in Washington. They say:

"The recent trend in tuna production, with each year's pack exceeding that of the previous year and setting a new total pack record, seems due to be continued this year."

Research shows that most American families prefer tuna to other forms of canned fish. One thing is certain—you can make a greater variety of salads and other prepared dishes with tuna, and all this adds up to a hopeful view for the future . . . if we can just settle a few of the immediate problems.

Another Year!—We always welcome the start of a New Year because it gives everybody a fresh start for another round in the cycle of life. Only thing—we hate that extra year it tacks onto our age.

Like the elderly gent who had taken a room in a hotel and was just getting ready for bed when a flashy blonde bounced into the room.

"Oh, excuse me," she apologized. "I must have got into the wrong room!"

The old man sighed: "Not only that, young lady, but you got here 25 years too late."

BRIANT SANDO

FACTS and FIGURES

THE story of tuna includes a romance of the sea and of the men who wrest their livelihood from the rich harvest the sea offers to those who are daring and sufficiently skilled to reap it.

It is the story of fishing boats that roam the ocean for months at a time, of the canneries where the fisherman's prize is packed for consumer use; and finally of the nutrition, economy and flavor qualities that have made tuna America's largest food-fish industry.

Another story line, too, runs throughout the history of the tuna industry—and that is the story of free enterprise. For come rich harvest or poor, come heavy pack or light, come profit or loss, this industry through its own self-reliance has conducted its affairs and nurtured its growth without subsidy with which to build boats, without price supports to insure markets, without marketing agreements or Government aid, and it has come of age on its own two feet.

Today, the fishing industry, of which tuna is the mainstay, is California's fourth largest industry; 18,000 men and women are directly employed in the tuna industry and many thousands more are employed indirectly in the manufacture of cans and cartons, in shipyards and repair depots in transportation and in oil and the many service industries that care for our needs. The annual value of pack to the canner is \$130,000,000 with millions more to the broker, the wholesaler and to retail outlets. Tuna canners, this year, will spend some 9 million dollars for advertising and sales promotion activity.

In addition, we are large suppliers of such by-products as fish meal, an important protein-rich additive to poultry feed; fish oil, used in the manufacture of paints; and concentrated fish solubles, an important vitamin source for poultry and animal feeding.

A Short History

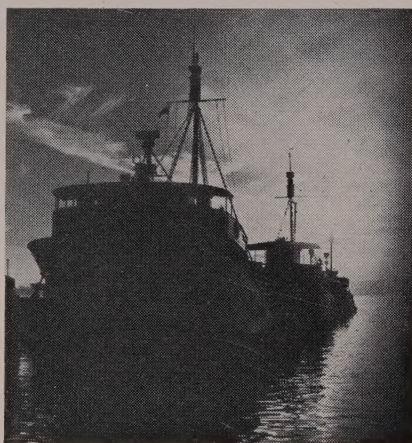
The history of canned tuna in this country is a short one and dates back to 1903, when one cannery and a few fishing vessels were responsible for the first 700 cases processed in Los Angeles Harbor.

Although tuna had long been

ON THE

Tuna Industry

By E. L. MORRIS



known to Southern California fishermen, they were not regarded as commercially valuable. West Coast canneries were engaged in packing other fish varieties, especially sardines which were plentiful in Pacific waters. When in 1903 sardines failed to appear and a crisis confronted both the fishermen and the canners, experimental packs of albacore tuna were offered on the market. Initial sales were slow—even at the price then of around \$3.50 per case (7c a $\frac{3}{4}$ pound can) and even slower from the grocers shelf to the consumer.

Canned tuna was an unknown product and had yet to feel the magic power of advertising. Other canners soon recognized the potential and joined the pioneering effort. Next consumers became conscious of tuna's nutrition and flavorful qualities and volume began to grow.

The tuna industry really came into its own during World War I, when the food storage and economic stress created a demand for protein rich foods. Tuna was the answer and canneries all along the California coast

began packing it in substantial quantities.

At first albacore was the only species packed. Albacore, or whitemeat tuna, is a bullet shaped tuna of snow white flesh and bland flavor, growing to a size of 55 to 60 pounds.

Within a few years it was found that the runs of albacore were erratic and other types of tuna were needed to meet the demand. By 1915 the canners were beginning to pack yellowfin and skipjack or light meat tuna. Both tuna were of light flesh, rosy pink in color with a rich full flavor. Skipjack average between 5 and 15 pounds in weight, while yellowfin tuna run up to 100 pounds, though smaller weights are more desired by the canneries.

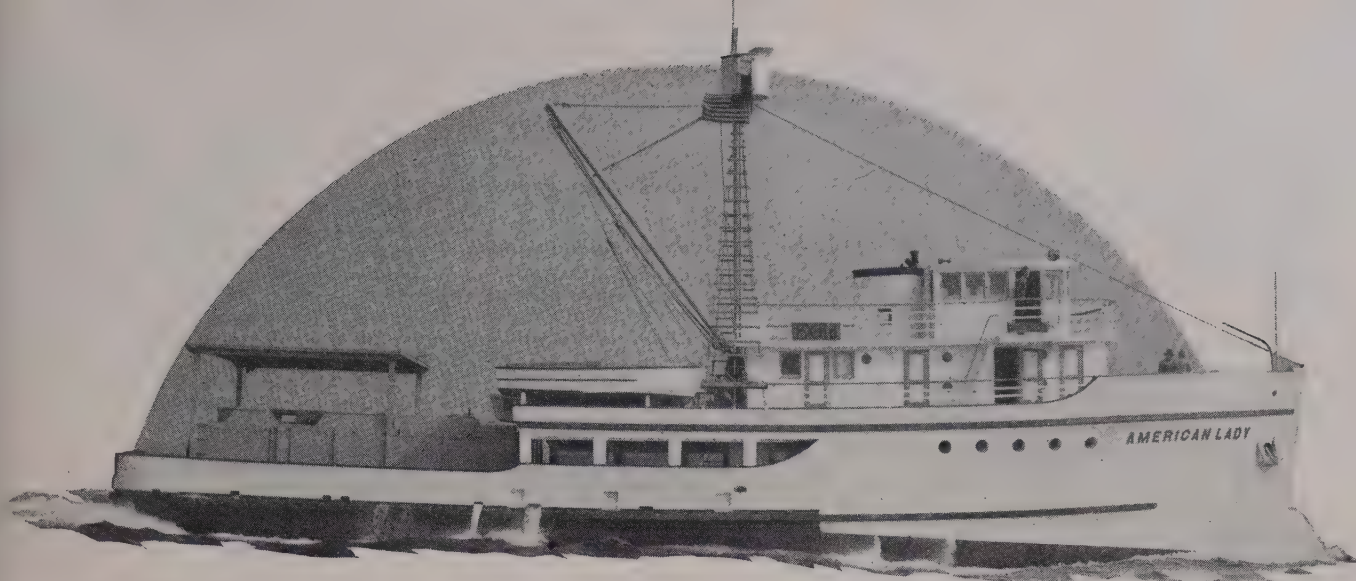
Changing Conditions

Albacore remained the dominant species of tuna canned until 1926, when there began one of those long term cyclic changes in oceanographic conditions which occur off Southern California. Suddenly the albacore disappeared completely from the coastal waters. The conditions which caused the albacore to leave the in-shore areas caused the skipjack and yellowfin to move further North, and then these tuna were found in the whole area from Southern California to Northern Peru, a 3,500 mile stretch.

As a result, revolutionary changes were necessary in the fishing fleet, which heretofore had consisted of small boats capable of venturing only a few miles from port, or trips of a day's duration.

Larger Boats, Longer Cruises

In 1927 for the first time, the catch south of the Mexican boundary exceeded the production off California. The day of the large boats and the long cruises was at hand. Many changes in methods of operation were made to increase the efficiency of the fishing vessels. Ice was carried in insulated fish holds so that boats could remain at sea for longer periods. Crew's quarters were enlarged. Diesel engines replaced gasoline. By 1935 the tuna catch had reached a high and the market for canned tuna continued to expand, requiring further improvements in the size, equipment and range of the large tuna clippers.



Tuna and the War

This transformation of the fishing fleet which had transpired gradually during the 30's was shortly interrupted by the outbreak of war in the Pacific. The effect upon the industry was immediate, as the tuna clipper was ready and adaptable for the Navy job of supplying troops in the South Pacific. In a few months 60% of the vessels were fighting the war.

It wasn't until 1948 that the clipper fleet had recovered sufficiently from its war time losses to once again become one of the main producers of tuna.

Three Different Fleets

Three separate and distinct fleets provide the raw material for Southern California canneries. The clipper fleet based at San Diego consists of about 200 vessels with capacities ranging from 100 to 500 tons of tuna. This fleet is also known as the bait boat fleet, because the fishermen fish with hook and line and use live bait thrown over the side to attract schools of tuna to the boats so that the fishermen standing on racks lowered over the side of the boat can hook the wary tuna.

This fleet accounts for about 70% of American caught tuna and fishes only for skipjack and yellow-fin. Its value is about 40 million dollars.

The second fleet is the purse-seine fleet based at San Pedro. This consists of approximately 170 purse-seiners that operate more or less continuously in the tuna industry. In purse-seining large nets are employed to capture the fish. The net is towed by small row boats in a circle around a school of tuna. A heavy chain loops through the net and acts as a draw

string to enclose the fish in a purse-like pocket.

The purse-seiner fleet is most active during the months when the fish swim in schools. As most of these boats have a limited cruising range, they are largely confined to areas near the coast. The purse-seiners account for about 20% of the tuna landed by American fishermen.

In addition to the tuna clippers and purse-seiners, small albacore boats operate along the shore line of the Pacific Coast during the summer and fall when albacore are running. Two methods of fishing are used in the albacore fleet: trolling, and bait fishing with bamboo poles.

Vessels range in size from 25 to 60 feet. The smaller boats have one or two men in the crew and fish by the trolling method. Boats over 40 feet may have from two to five men in the crew. It is estimated that over 3,000 vessels are engaged in this fishery during the albacore season, and account for about 10% of landings.

The fishermen themselves are a religious, God-fearing group of people. A feature of every tuna clipper is a little chapel for religious worship. At the home ports of San Diego and San Pedro the fishermen have their own settlements and each year religious fetes are held, celebrated by the ceremony of blessing the fleet.

A Family Affair

The honorable and respected occupation of the fishermen usually is a family tradition with the sons following their fathers out on the high seas generation after generation. Of necessity a fisherman is courageous, fearless and strong. Often he is away from his family for months at a time. Commercial fishing is fraught with

danger and storms, and angry seas have claimed many a fishing boat.

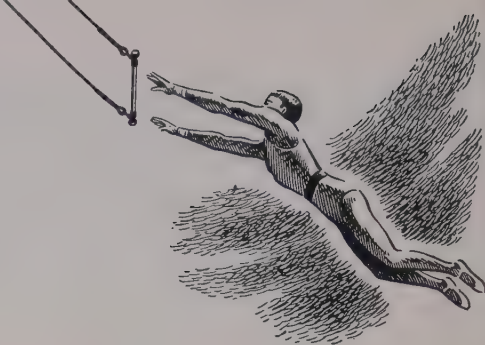
The fishermen are paid no salary or wages, but they don't fish for fun. It is all done on the share system and this is how it works:

When a tuna clipper sails for the fishing grounds, the catch already has been contracted for by an individual cannery and the price agreed upon. Assuming the clipper is of the 300-ton capacity class and fishing has been satisfactory, the skipper unloads upon return at his contracting cannery. The value of the catch at today's prices is approximately \$100,000, which the owner receives upon unloading and inspection by state or federal inspectors.

Immediately the so-called trip expense is deducted from the total receipts. Trip expenses consists of fuel, food, licenses we are required to pay in order to take bait in the territorial waters of Latin and South American countries, and minor supply and repair items, and amounts to some \$12,000 to \$15,000 per trip. The balance then is split approximately 50-50 between the boat owner and the crew.

Out of his share, the owner must pay insurance, major repairs and annual reconditioning as well as provide a return on the investment in the boat, which is no small item (a new 350-ton clipper recently launched at San Diego cost \$500,000). The crew's half of the split is divided between the 15 to 18 members of the crew as their return for approximately three months of hard work away from home and family. Clippers average about three trips a year and of about three months duration each. *

Swing High Swing Low



UPS AND DOWNS OF THE TUNA INDUSTRY

A YEAR ago we wrote a similar article for this publication. Looking back on what we said then, it seems that we put our finger right on the spot that still is most vital. So let's repeat.

"The threat of ever-increasing Japanese imports to the United States remains the one unknown factor in considering the American tuna industry. Just an even break, in the form of relief from excessive Japanese tuna imports to this country, will give our home industry a badly needed opportunity in 1954 to recover from the adverse effects of these imports over the past five years."

Following this we quoted statistics of actual imports to this country for five years, and analyzed the effect of these imports on the industry in general—the fishing fleet, the canneries, and the market.

It is significant now to review some of those figures as a comparative basis for the general condition today—a year later. Japanese imports in 1953 absorbed 30.9% of the American tuna market. In 1954 (for the first nine months) Japanese imports had climbed to 37% of the market, or an increase of 8%.

History of Ups and Downs

At the end of 1947, Japanese imports of tuna to this country stood at zero. A slow but steady rise in imports followed in an almost straight line until 1949. The jump in 1949 from 2.9% of the American market to 20.3% resulted in the glut of tuna that caused many tie-ups in the U. S. tuna clippers.

If this sounds pretty pessimistic it is because it is being written in San Diego where the tuna really is big

By ROBERT K. LAWSON

business and where its ups and downs are taken most seriously. Here the fishermen, boat owners and allied interests simply have to find a ready market and get a good price for their product or they quickly get into trouble . . . on account of the tremendous investment in tuna clippers and the cost of operating at great distances from the home port as compared with most fishing vessels. For example, the fleet of purse seiners out of San Pedro. The latter boats, being smaller and less expensive, also require a smaller crew and do not make the long, expensive and hazardous trips made by the San Diego fleet.

All this makes San Diego have an "exposed nerve," so its aches and pains come thick and fast when things go wrong. But when things are right—ah, that's another story . . . and our present efforts in telling what's wrong at this time will help to correct certain conditions a little sooner, we hope, we hope.

From 1947 to 1950 the U. S. tuna fleet had shown a steady rise from 163 vessels to around 200. The 1950 glut did not set the tuna men back much; they felt it was an unusual situation that wouldn't last too long. The fleet continued to build and reached in 1951 an all-time high of 211 clippers.

The glut made the Japanese realize they were bringing in the fish too

fast. When prices skidded they reduced their exports and their share of the American market declined to 15.5% at the end of 1950.

From the beginning of 1951, however, there began a steady rise again . . . though not at such an accelerated pace. By the end of 1952 the figures had climbed back to 23.2% of the market.

The effect of this on the American clipper fleet was direct and damaging. From 211 tuna clippers the fleet shrank during 1951 to less than 200 vessels. The trend continued downward and the fleet had approximately 183 vessels left at the end of that year.

Meanwhile Japanese imports continued to climb in a steady rise to the end of 1953 where they wound up with an all-time high of 30.9% of the American market. If the curve follows the same general characteristics it has since the beginning of 1951, Japanese imports will reach 39% by the end of 1954.

The decline of the American fleet follows almost a straight line with the corresponding decrease of the American share of the market. Two vessels per year have been added to the fleet in the last three years. In that time 54 vessels have been sunk, transferred elsewhere, or decommissioned, leaving the fleet at an estimated total of 163 vessels at the end of 1954. This is right back where the fleet started in 1947.

Imports from Peru climbed steadily, more or less, from 1947 to the end of 1950. With the Japanese glut that year Peruvian imports fell off slightly and have since that time followed a gentle downward trend. The same down trend shows up on im-

ports of tuna to this country from other sources.

The U. S. Fleet's Percentage

Figures showing the American fleet's share of the American market of tuna are interesting. Starting in 1947 they stood at 91.6%. This held fairly steady through that year, but began a sharp downward trend in early 1948. By the end of 1949 they were at 85.5%.

The big drop came in 1949, and by 1950 the fleet's share of the market had skidded to a low of 67.4%. Some gain was made back the following year which ended up with the fleet's share at 70.9%. This was a brief respite, however because 1952 went down to 66.0%, and the end of 1953 registered an all-time low of 59.9%. Another new low is indicated when the final figures are in for 1954 . . . skidding down another 8.1%. This, if it proves true, will leave the U. S. fleet with about 51.8% of the American market; Japan with about 39 or 40-odd per cent, and the balance of 12 or 13% to be filled by Peru and other sources. Starting with a market of something under 8,000,000 cases in 1947, the American market for canned tuna rose to 11,000,000 cases in 1953, and is expected to total about 12,000,000 cases for 1954. Fifty per cent of that market is the American fleet owner's share.

Cutting into this still further, the demands of fishermen's unions have relieved the vessel owner of about 50% of his payload each voyage. Considering the cost of one item alone, insurance, the owner may have to shell out as much as \$20,000 or \$25,000 premium on a \$500,000 vessel. Coupled with costly repairs, lay-ups and other expenses the operation of a tuna clipper appears to be an uncertain investment today.



There have been no shuffles in cannery ownership during the past year. The "big-three"—Star Kist, Van Camp, and Westgate—continue operations at full tilt supplying the 12,000,000 case market they have built over the past six or seven years, with an annual advertising budget now estimated around \$9,000,000. All have embarked heavily in television shows with top-flight stars.

The Market Is Big and Growing

Fortunately, the market continues to build and is apparently a long distance from the saturation point. Meanwhile 50-odd tuna clippers, with something like 10,000 tons of frozen tuna aboard, with a value estimated in excess of \$3,000,000, stand-by in San Diego Harbor waiting to unload. Some of them have to buy supplies, fuel and provisions on time . . . and here is why:

They spend from two to three or four months on the fishing banks. After they return, they lay up in the Harbor for three or four weeks or longer to unload. Once unloaded it takes about one week to figure and process their checks. By the time they get around to pay their bills, everybody from the grocer to the ship chandler, from the shipyard to the fueling docks is struggling for money.

Hardest hit of the lot perhaps, are the shipyards; their bills for supplies, materials and labor to keep the tuna clippers fishing are continuous. The over-all effect of excessive Japanese imports of tuna to this country are felt throughout Southern California, but are particularly acute in the city of San Diego.

So much for the "Review." Now what of the "Preview?" If we project the figures now shaping up the end of 1955 will see Japan with about 48% of the total American market. At this same rate of increase Japanese imports could take over nearly 100% of the U. S. market by the end of 1960 . . . especially if Peru and other countries continue to get their share.

In this event, the clippers that manage to survive in the American fleet might arrange to go fishing for the Japanese because by that time the American market should require around 17,000,000 cases per year. We cannot forecast the increase in the Japanese fleet construction. And since we have mislaid our crystal ball, we have based all these statements on historical facts. We have some reasons for thinking that tuna's

future will be brighter and happier than recent history indicates. It probably will be . . . if the American tuna industry gets together and holds the line. *

Gulf of Mexico Book

The Gulf of Mexico as seen through the eyes of scientists is described in a 604-page bulletin titled *Gulf of Mexico — Its Origin, Waters, and Marine Life*, released by the Fish and Wildlife Service.

This exhaustive treatise was prepared primarily as a guide for scientific research projects, a number of which are now being conducted in the Gulf by Federal, State, and private organizations. It discusses early explorations in the Gulf and summarizes all available information on its shorelines, geology, meteorology, physics, chemistry, and communities of plants and animals ranging from the bacteria through the marine mammals.

Copies designated as Fishery Bulletin 89, may be purchased from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C. The price is \$3.25 per copy.

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Wirelon Ropes

A booklet on "Wirelon" ropes has just been published by Rochester Ropes, Inc., Culpeper, Virginia.

Constructed of high tensile steel strands and tough, durable nylon, Wirelon is available in a complete range of sizes, strengths, and other physical characteristics, and has proved its superiority in a wide variety of uses. In the marine field it has numerous applications ranging from tiller ropes to stays for movable deck equipment. The free booklet gives description and specifications.



Knee Safety Pads

This adjustable rubber knee pad fits any size knee, offering soft sponge rubber protection for every kneeling job.

No matter what the "down-on-the-knees" job is, these pads let you do it easier and with greater comfort. Will not slip down or come out of adjustment. A safe non-slip waffle tread grips wet or slippery surfaces.

Write the General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa.

Narmweld Repair Kit

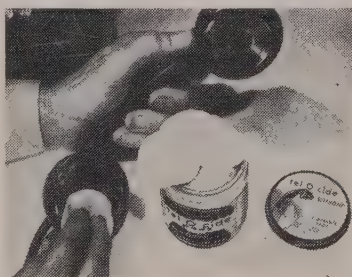
A complete fiberglass repair kit for permanent emergency patches has been introduced by Narmco Manufacturing Company of San Diego, Calif. A mixture of Narmweld resin and Catalyst "C" which sets at room temperature, this new bonding agent has been designed for patches on metal, wood, fiberglass, glass, ceramics and plastics.

The kit contents includes 1/2 lb. Narmweld resin, 1 oz. Catalyst "C," 320 sq. in. fiberglass cloth and mat, 4 stirring sticks, 2 measuring spoons, 6 mixing cups and a detailed instruction sheet. The complete kit is on sale at stores throughout the country for approximately \$4.95.

Raytheon Equipment

At a recent show held by the Institute of Radio Engineers, Raytheon's marine navigation equipment occupied a prominent place. Included was the "Mariners Pathfinder" Model 1500—a radar for small vessels (tugs, yachts, workboats, ferries, and similar craft) for it combines most of the features of "big ship" radar in a small fraction of the weight, space, and expense. This equipment is also being used by increasing numbers of big ships as standby equipment in case of the need for two radars, or in the event of a breakdown of the large one.

Another Raytheon item is the Submarine Signal "Fathometer" depth sounder, which works on the echo principle. Sending a high velocity sound wave downward, the signal is bounced off the ocean floor and returns. The time it takes for the echo to return is measured electronically and converted to feet or fathoms on the dial. Thus the navigator has before him at all times an accurate, reliable reading of the water's depth. He can avoid shoals, shallow water, and can even locate schools of fish. The "Fathometer" depth sounder is rapidly becoming a universal tool of commercial fishermen because of its uncanny ability to locate schools of fish, determine their depth and density, and to point out the hazards of ledges and other underwater conditions that might tear or break the nets, trawl boards, etc.



Telephone Sanitation Pads

A simple wiping with a new disposable cloth wafer, impregnated with an active germicide harmless to human beings, sanitizes and deodorizes telephone mouthpieces in a few seconds. The cloth pads, named Tel-O-cide, are recommended for good telephone hygiene. Price \$1.39 for 100 pads from General Scientific Equipment Co., 27th and Huntingdon Sts., Philadelphia 32, Pa.



Air Horns for Boats

Three new models of Air Horns are available for boats. They have a low silhouette and are easily mounted; they have a rich, powerful tone that can be heard for long distances through fog, rain and wind. They are heavily chrome plated and weather resistant. For information and prices, write to: Buell Manufacturing Co., 919 West 49th Place, Chicago 9, Illinois.

"Celastac" Saves Ice

Extensive use of "Celastac" plastic as a deck covering material on boats operating in the Gulf of Mexico indicates its high insulation value in saving ice and preventing the ruin of a cargo of fish by excessive heat.

For example, a Key West, Florida, report says that shrimp bins under "Celastac"-covered decks retained ice longer and held the temperature noticeably lower than before the covering was applied.

The "Celastac"-covered decks do not leak and are not affected by the hard usage incident to the fishing trade. In the Maine fisheries, "Celastac" has been widely used for deck covering, live fish wells, refrigerator lining, and many incidental uses.

"Celastac" is a cloth into which is impregnated the plastic so that it resembles thick blotting paper. When this impregnated cloth is immersed into the liquid Activator, it becomes limp as a wet dishrag. In that state, it is applied to the surface it is intended to cover. In a few minutes it becomes leathery. After a further period, it becomes very hard indeed.

"Celastac" is manufactured by a duPont subsidiary and is marketed to the fishing industry by Calahan & Horsey, Inc., 551 Fifth Avenue, New York, 17, New York.

TIDES OF THE INDUSTRY

Generator and Bilge Pump

A combination generator and bilge pump has become a standard item in the line built by United States Motors Corporation, Oshkosh, Wis.

Lack of head room but plenty of deck space forced the design of this combination which operates at 1200 RPM with either a 5 KW or 10 KW generator or at 1800 RPM with a 15 KW generator. A four cylinder diesel unit, the bilge pump has a capacity of 50 gallons per minute. Literature free from the manufacturers.

Sperry's "Loran" Equipment

Current production of latest-type Sperry direct-reading "Loran" equipment is boosted by 300 units . . . an important step-up in all-weather capability of this navigating aid.

Developed originally for the Navy, Loran has come into widespread commercial usage since the end of the war. Oil tankers and liners have profited greatly by being able to ride prevailing currents one way and avoid them in the opposite direction. Fishing ships have been able to mark accurately the most productive fishing grounds and return to them at a later time.

Loran transmitting stations are maintained on a cooperative basis by the United Kingdom, Denmark, Iceland, and the U.S. Coast Guard at 24 points in the Pacific, and 13 in the Atlantic at the present time.

Collapsible Boarding Ladder

A new collapsible ladder, made of aluminum and stainless steel, which hangs rigid and straight when extended its full 55 inches, but which can be collapsed into a 5 inch lightweight, easily handled package, was recently announced by the manufacturer, King-Lindstrom Co., Totowa Borough, Paterson 2, N. J.

Called the STO-A-WAY, this new boarding ladder is the answer to the space problem which exists on all craft. The entire ladder is made of corrosion-resistant aluminum alloys and stainless steel. Polished hull fittings and a handsome blue canvas carrying case are provided. The steps are treated to prevent slippage.

Splicing Wire Rope

Huge savings in time are claimed for a new wire rope pressing system that eliminates hand splicing. Using the new system, a worker can make as many as 20 to 30 splices in an hour, as compared to 6 or 7 conventional splices per hour for a skilled worker using hand methods.

The new pressing system, announced by Jones & Laughlin Steel Corporation, employs an aluminum alloy clamp or sleeve that is squeezed around the wire rope in a special press. Called Jalklump, the device is used as a mechanical method of splicing eyes, with or without thimbles, in the ends of wire rope. This "splice" gives 100% of the breaking strength of the wire rope itself.



A Telephone Aid

This aid for busy people in answering the telephone is called "Telehold" and automatically braces against either shoulder, leaving both hands free for writing or working.

Made of black plastic with foam rubber padding on the shoulder piece; adjusts automatically to all shoulder widths and slopes. Snaps onto receiver without use of tools; \$1.98 postpaid from American Homecraft Co., 3714 N. Milwaukee Ave., Chicago 41, Illinois.

Raytheon's Small Radar

A new, 12-page, two-color brochure describing the "Mariners Pathfinder" radar, emphasizes the plus-features of the new 2-unit radar: unusual compactness, ease of installation, and simplicity of operating controls and servicing accessibility.

This is said to be a new, low-cost compact radar with big radar features and reliability. Write Raytheon Manufacturing Co., 100 River Street, Waltham 54, Mass.

Leak Detector

A new product called Leak-Tec is a sensitive liquid developed from a special formula for detecting the most minute leaks of gas, chemicals, oils and air . . . simply by squirting it from a specially designed plastic bottle on surfaces of the article or location that is being treated.

Being non-inflammable, non-explosive and non-injurious to the person using it, Leak-Tec can be used extensively in testing for leaks on gas filled electric cables and transformers, refrigeration, air conditioning equipment, automatic instruments, chemical lines, etc. Made by American Gas & Chemicals, Inc., 45 Rockefeller Plaza, New York 20, N. Y.

Marine Power

"Honest Marine Power" is the title of a booklet which discusses horsepower ratings.

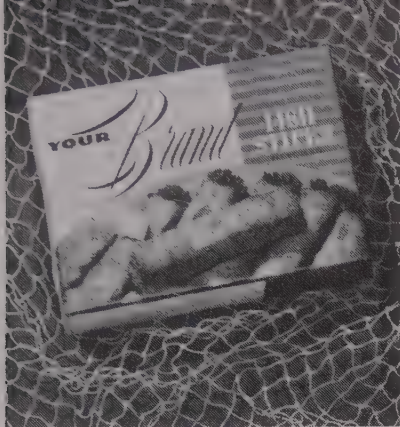
It is complete with photographs and stories of Caterpillar Engines in actual marine applications in all parts of the country and how these engines are helping solve power problem for commercial boat operators.

Copies may be obtained from marine dealers or by writing Caterpillar Tractor Co., Peoria, Ill.

Simplified Diesels

A new and greatly simplified diesel fuel system is announced by Cummins Engine Company, Inc., Columbus, Indiana, manufacturers of high speed diesel engines from 60 to 600 H.P.

This new system, designated as the Cummins PT Fuel Injection System, completely eliminates fuel rack adjustments, high and low pressure check valves, spring loaded needle valves, helixes, distributor discs, metering pumps, high pressure fuel lines, and the necessity for timing the fuel pump to the engine. This new system is now standard equipment on all models of Cummins Diesel engines and can be applied to all Cummins Diesels built since 1932, thus permitting older engines to be completely modernized. It is said to be so simple that the average mechanic can easily understand its workings in a few hours, thus simplifying servicing problems, and reducing diesel engine maintenance and overhaul costs.



Fish Packaging

Eye-appeal is combined with economy in a new full-color, stock design for Fish-Stick packaging. This brings the total number of Western stock designs for seafood to 27. Others include virtually every type of frozen seafood products plus such specialty items as Shrimpburger and Crabcake. The company also produces a full line of stock designs for frozen meat, poultry, fruits, and vegetables, in addition to custom-designs.

Western stock vignettes are so designed that the packer or distributor may incorporate his own art work and copy to create a custom or original design—at substantial savings. The wraps are printed in combination runs, effecting further economy.

For additional information write to Western Waxed Paper Division, Crown Zellerbach Corp., 2101 Williams St., San Leandro, California.

Fish Stick Production Soars

Approximately nine million pounds of fish sticks, the popular new breaded food item, were produced in the United States during the first quarter of 1954, the Fish and Wildlife Service reports. This exceeds, by 1½ million pounds, the Nation's entire output last year.

A report of FWS shows that the 13 firms making fish sticks last year showed a 1953 output of 7½ million pounds. These same firms, which now form only a nucleus of total producers, accounted for 8,977,000 pounds during 1954's January-March period alone.

A number of new firms, for which figures are not yet available, have begun the manufacture of this fast-selling commodity since January 1. Total United States production for this year's first quarter, therefore, is certain to have exceeded the nine million pound mark. It is estimated that the total output for the year will exceed 40 million pounds.

Fish sticks are uniformly shaped pieces of fish dipped in batter, breaded, and frozen in consumer-sized packages. Closely resembling French-fried potatoes in appearance, they can be purchased in precooked or uncooked form. The precooked sticks, which have been deep-fat fried before freezing, are easily heated in the oven at home for serving. The uncooked sticks are designed for those housewives who prefer to do the frying themselves. Consumer acceptance of fish sticks has been so widespread that some sources expect them to do for the fishing industry what fruit juice concentrates have done for the citrus fruit trade.

During the last quarter of 1953, the demand for fish sticks was so great that producers were unable to keep current with their orders. With new firms constantly entering the field, however, the supply in 1954 is expected to cope satisfactorily with the demand.

Both imported and domestic fish are used in fish stick manufacture. The sticks produced last year were composed chiefly of cod and other groundfish. By early 1954, however, such species as salmon, halibut, whiting, and Pacific rockfishes were also being used.

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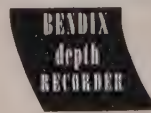
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New Position for Charles R. Carry

Here is Mr. Carry (right)
and Mr. Loker

The appointment of Charles R. Carry as executive director of the California Fish Cannery Association, representing California's multi-million dollar industry at Terminal Island, was announced by Donald P. Loker, president of the association.

Carry resigned as director of the Fishery Products Division of the National Cannery Association, at Washington, D. C., to take over the new post January 1.

In announcing the appointment Loker said, "Mr. Carry's 15 years of experience in national and interna-

tional affairs of importance to fish cannery will be invaluable to the future programs we are formulating for the tuna, sardine and mackerel canning members of our association."

Carry had been with the National Cannery Association since 1940, and director of the fishery products division for eight years with the exception of three year's absence during World War II when he assisted the O.P.A. in its price control program for processed foods. He has been a fishery advisor on the U.S. Delegation to three of the seven International Conferences of the food and

agriculture organizations, a specialized agency of the United Nations.

He is a past vice president for Commercial Fisheries of the American Fisheries Society, a regular member of the Wildlife Management Institute, and belongs to the Washington, D. C., chapter of the Izaak Walton League.

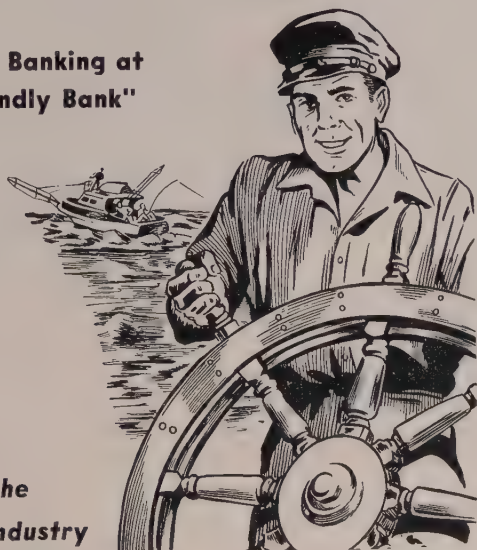
Pink Salmon

Pink salmon entered Washington streams this fall to spawn. While small, the run was biologically unique. Normally pinks appear in Washington waters only in odd-numbered years.

State Department of Fisheries scientists, who have worked on the problem for years, hope the artificially created run heralds an even-year commercial harvest of pink salmon for the future.

Farther north, in Canadian and Alaskan streams, pink salmon occur every year. Why they fail to seed Washington's streams in even years is a riddle which state fisheries men are seeking to unravel. All other species are present each year.

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Styles illustrated — 50-00 jacket,
51-40 pants, 53-15 hat



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CAMBRIDGE MASSACHUSETTS

Sardines Are Back!

SARDINES are back in Southern California waters, but the marketing conditions were such that there was no heavy draft on the increased but still relatively small populations of sardines, according to R. S. Croker, marine fisheries chief for the California Department of Fish and Game.

Landings to December 1 were 55,000 tons as compared to less than 3,000 tons all last season, but this figure could have been greatly increased had marketing conditions been good and sardine reduction for meal been allowed by the Fish and Game Commission which controls only the reduction segment of the industry.

The all-time high take of sardines was about 750,000 tons in 1936-37 and for 25 years up to 1952-53 the catch never fell below 110,237 tons.

"The Marine Research Committee reported that sardines began moving into southern California waters from Mexico this spring in response to higher water temperatures," Croker said.

"That committee also reported that in 1954 water conditions were similar to those in 1948 and represented the first time since then that spawning has increased off California. Although fishermen have enjoyed good catches, the committee reports, all indications are that the total Mexico-California population is much smaller than during the heyday of the industry."

If water conditions remain good for several years, and not too many fish of pre-spawning age are taken, there may be some chance for revival of the sardine industry, Croker reported.

Factors Controlling Catches

Among the factors tending to control the catch this year were:

1. Consumers changed to other foods when sardines became unavailable and are now out of the habit of buying sardines.

2. Foreign competition has cut into the American and overseas markets. When fish are plentiful costs are low, and vice versa. Thus California cannery cannot compete with foreign processors during times of scarcity.

A price disagreement kept the sardine fleet in port for the first three weeks of the southern California season. The fishing began when processors agreed to take 30,000 tons at \$47.50 per ton. Since delivery of that amount, fishing has been sporadic depending on marketability.

The marine fisheries chief pointed out that the market for fish meal is fairly good and had the Fish and Game Commission approved applications for reduction, the catch this year would have been much greater.

Surveys by the Department show that the bulk consists of fish in the second and third year of life, which have not yet reached their full spawning capacity.

Reasons for Sardine Decline

There's two schools of thought on the "reasons why" for the decline and apparent return of the sardine in waters off the California coast. On the one hand, some scientists claim that currents and sea disturbances were responsible for the disappearance and not over-fishing by commercial interests as is often claimed.

In answer to this the following was written (and first published in the Los Angeles Times), by Herbert C. Davis, director of research for the California Fish Cannery Association, Inc.

There are five cooperating agencies working together on the sardine problem. They are:

California Academy of Sciences.

California Department of Fish and Game.

Stanford University, Hopkins Marine Station.

U. S. Fish and Wildlife Service.

University of California, Scripps Institute of Oceanography.

Of these five, only one, the California Department of Fish and Game, has ever stated that overfishing was the primary cause for the disappearance of the sardine. The four other agencies have adhered to the position that the problem is too complex to allow them to assign any primary cause to their disappearance.

Surveys by the Department and cooperating biologists also indicated that the bulk of the catch consisted of fish which had moved north from Mexican waters rather than new recruits to the local population.

Croker, in stressing the need for management of the species, pointed out that while economic conditions this year had been effective in limiting the catch, the same conditions might not exist in any given year.

"Return of the sardines to Southern California waters may be due to changes in oceanic conditions, but the fact still remains that if these fish are caught before they spawn there can be no great revival of the fishery," he said.

"Survival of the sardine is too important to be left to the vagaries of the market and other economic conditions." *

The June 30, 1953 (the latest) report of the cooperating agencies states, "We are able to give some clues as to the cause of the catastrophic decline in sardine landings, but are not able to isolate any single primary reason."

On December 8, before a joint Senate and Assembly committee on fish and game in the State Building in Los Angeles, Dr. Frances Clark, director of the Fisheries Laboratory of the Department of Fish and Game, stated substantially that there was no agreement among scientists upon the question of the influence of man (fishing) on the abundance of sardines, that the environmental conditions, spawn survival, ocean currents and other natural phenomena loom so large and are of such importance that it is impossible to sort out the effect man has on the fishery.

It is true that the scientists agree that the present fishery is composed of a population that has moved north from Mexican waters, but in normal, or shall we say in former, times this population has always moved north to become a part of the California fishery.

See the tagging results of 1938 where fish tagged in Mexico were recovered as far north as San Francisco and British Columbia; see also the transcript of Dr. Clark's report to the legislative committee on December 8.

Automatic Direction Finder

A new Automatic Direction Finder and Radio Receiver combination is said to give continuous automatic bearings on shore stations or ships plus excellent radio reception on beacon, broadcast, and marine short wave.

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TARIFF NEGOTIATIONS

Announcement was made last month that the United States intends to carry on tariff negotiations with Japan and other countries leading to possible reductions in U.S. tariff rates.

Among the products on which the United States may offer concessions are: *Tuna*, canned; *crab meat*, canned, fresh or frozen; *clams*, canned; *oysters and oyster juice*, canned; *swordfish*, fresh or frozen; *fish*, dried and unsalted; *frog legs*, fresh or frozen. A "concession" may be a reduction in a tariff rate, or an agreement to continue the present tariff rate.

The negotiations will be conducted next February in Geneva under the sponsorship of the General Agreement on Tariffs and Trade (GATT).

Purpose of the conference will be tariff negotiations looking to Japan's full accession to the General Agreement. The United States will negotiate tariffs directly with Japan and also with other countries.

GATT was originally developed in 1947 to lay down a set of rules for the conduct of international trade. The current review will take into consideration the improved world economic situation since 1947. The State Department states that it is hoped that this improvement will make possible further relaxation of restrictions now imposed by some countries on the import of U.S. goods. The review will also consider the need of underdeveloped countries to develop and strengthen their economies.

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Tuna Tariffs Have Reached **THE PERIL POINT**

IN an effort to save the U.S. tuna industry from further damage at the hands of Japanese competition, leaders of the Southern California tuna fleet conferred with U.S. Tariff Commissioners in Washington last month.

Warning that further reduction of canned tuna duties in the forthcoming trade conference with Japan would ruin American packers, Donald P. Loker, president of the California Fish Cannery Association at Terminal Island told the Commissioners, "This truly represents for us a fight to save our industry."

Rather than a reduction in present duties, an increase from the present 45% on tuna packed in oil to 59% was asked by F. E. Hagelberg, vice president of Van Camp Sea Foods. In addition, Hagelberg asked a 54% duty on brine-packed tuna, to supplant the present 12½% duty rate.

Joseph E. Talbot, member of the Commission, replied that Hagelberg was asking the Commission to do "an impossible thing" and stated that in advocating a "peril point" finding in excess of present duties the Commission would be forced to recommend abrogation of present agreements.

Pointing out that the Japanese government is planning further expansion of its tuna industry, E. L. Morris, director of the Tuna Research Foundation reported that the government of Japan had recently announced a multi-million dollar expansion plan which would yield a potential canned tuna production of 23,000,000 cases by 1958—more than twice the present world consumption.

He told the commission that canned tuna inventories in Japan are estimated at 850,000 cases today as opposed to 350,000 cases a year ago, more than doubling their inventories. Morris said, "U.S. packers are fearful that much of this store is being held off the market until after the trade agreements, when it will be dumped here."

Morris offered newspaper advertisements in support of his state-

ments, showing that imported tuna packed in brine was priced at an average of 10 cents a can less than the American packed-in-oil variety.

Hagelberg then told the commission that the tuna industry has been operating below the peril point for the past five years, and that Japanese control of the brine pack market is such that no American canner can hope to compete, which is why no domestic canner has tried to develop a market for the brine-pack.

Brine-packed Japanese tuna accounted for 14% of American consumption in 1952, and by 1953 had increased to more than a third of the U.S. market.

James B. Lane, president of the Westgate-California Tuna Canning

Co. of San Diego stated that, "No matter how much we have increased our efficiency, foreign competitors are able to undersell us by reason of lower costs and lower wages."

Loss of the hotel, restaurant and public institution market was cited by J. G. Scharer, vice president in charge of sales and advertising for Star-Kist Foods, as an example of blows dealt the U.S. industry because of low tariff adjustments, without which the selling price of the Japanese and the U.S. pack cannot be equalized.

In addition to these and similar statements made to the Tariff Commission, the industry representatives also met with an interdepartmental Committee on Reciprocity Information, where nearly identical statements were made. The Reciprocity Committee will advise the State Department on the Japanese trade talks, while the Tariff Commission will make a secret report directly to President Eisenhower. *

Duty on Tuna in Brine

CHARGING that the rate of duty now being assessed by the Bureau of Customs on imports of tuna in brine is erroneous, the California Fish Cannery Association has filed a complaint with the Secretary of the Treasury.

The complaint declares that the determination of the rate of 12½% ad valorem, for tuna canned in brine in the trade agreement of August 27, 1943, between the United States and Iceland is invalid. Also, it strongly points out that, prior to 1948 tuna in brine was not an article of commerce.

It was not until 1951 when tariff affecting tuna canned in oil was increased from 22½% to 45% that Japanese tuna canned in brine appeared in large quantities. In 1952, 19,000,000 pounds were imported, and in 1953, 30,043,972 pounds arrived in this country which shows the enormous expansion of this pack.

Referring to the 1943 agreement, Donald P. Loker, President of the California Fish Cannery Association declared, "Tuna fish, in any form, is not a product of Iceland. It has never been processed there, or even caught by Icelandic fishermen. The Icelandic Agreement proved to be a convenient one for the Japanese in their search for a loop-hole in the United States Tariff Regulations, which allowed them to export tuna packed in salt water to this country at an unrealistically low rate."

"We believe this procedure is unconstitutional," Loker stated, "and we are requesting the restoration of the proper rate of duty of 25% on tuna in brine as specified in the Tariff Act of 1930. In the event of an unfavorable ruling by the Secretary of the Treasury, the action will be taken to the Customs Court."

quantities of tuna in oil." He called for a "reduction in the rate of duty from 45 to 22½ per cent." He declared further that such a reduction would "simply tend to place the imported product in a competitive position price-wise with the private label domestic product."

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BIG THREAT.--Morris went on to warn of the "visible threat of even greater injury to the tuna industry in the future. This threat, he declared, comes from Japanese plans to "tremendously expand" tuna production.

By 1958, he said, Japan may be about to produce 23 million cases of tuna per year--that's more than twice the present world consumption of canned tuna. "It seems," he said, "all this expansion is headed for the only mass canned tuna consumption country in the world--the U.S."

Morris also pointed out that as of December, 1953, the Japanese skipjack tuna fleet totaled 1,672 boats with gross tonnage of 124,132. In the following 6 months, he said, 98 additional boats with gross tonnage of 18,567 were added. He contrasted this with U.S. figures which showed that in the last 30 months, keels of only two American tuna boats have been laid. Morris declared:

"We can't help but wonder why, if the national good is to be served, if all the people of America are to benefit, the bill must be paid by a handful of industries including our own instead of all our people who will reap the benefits."

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RECORD TUNA IMPORTS.--Japanese competition for the domestic frozen tuna market continues to climb skyward. What's more, there doesn't appear to be anything in sight to hold Japanese imports down.

Imports of frozen tuna during the first three quarters of 1954 amounted to more than 103 million pounds--more than we've ever imported in a full year. Eighty per cent of these imports came from Japan, 16 per cent from Peru and the remaining four per cent from other countries. It looks like the year's total frozen tuna imports may reach over 120 million pounds.

For comparison, in the entire year of 1953 we imported a total of 95 million pounds of frozen tuna, with 83 million pounds of that being imported during the first three-quarters of the year.

Imports of canned tuna, however, fell off during the first 9 months of 1954 by about 10 per cent. Main reduction was in tuna canned in oil. On the other hand imports of bonito canned in oil jumped 27 per cent over the same period of the previous year.

Imports of many other kinds of fish and fish products shared in the upward trend. For example, during the first 9 months of last year, imports of groundfish and ocean perch fillets increased a whopping 58 per cent over the previous year; fresh and frozen shrimp imports moved up 10 per cent; and fish meal imports kited 16 per cent.

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FISH STICKS.--Production of fish sticks is stabilizing--at least temporarily--at a high level. Output of this phenomenally popular fish product has been going at an average rate of about 4 million pounds per month since June.

Last June is the high point to date. In that month fish stick production hit an unprecedented 4.5 million pounds. In the past two years, fish stick output multiplied about 10 times.

COLD STORAGE.--Cold storage holdings of frozen fish and shellfish at the end of October were considerably higher than for the same month a year ago. At the end of that month this year, cold storage held a total of 205 million pounds, compared with only 176 million pounds in October a year ago.

Freezings during October amounted to 27 million pounds compared with 25 million pounds during the same month of 1953.

Tuna holdings in frozen storage totaled 2.3 million pounds on October 31. Distribution was like this: In the Pacific States, 2.2 million pounds were in cold storage; in New England, 34,000 pounds; in the Middle Atlantic States, 23,000 pounds; and in the South Central States, 4,200 pounds. In October a year ago, frozen stored tuna totaled only 198,000 pounds. The five-year average of cold storage tuna held October 31 is 3.4 million pounds.

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FISHERMAN'S COLLEGE.--The British have come up with a new wrinkle to attract young men to the sea. It's a College for Fishermen. So far, it's only in the idea stage, but fishing interests are getting hot over it and think it might work.

According to reports to the U.S. Fish & Wildlife Service, the advocates of this idea say that many young men inclined to take up fishing for a living have been "frightened and disheartened" after one or two trips to sea. "The solution," according to one British official, "is obviously a more gradual introduction to the conditions, which must be arduous no matter how modern a ship may be."

This British fishery official points out that: "There is no other trade handling such a vast amount of modern machinery involving huge capital outlay which has not some collective scheme for training its employees."

The proposed college would contain a complete trawler and drifter ashore with all essential working parts reproduced as near as possible under working conditions at sea. There would be an engine room with modern Diesel engine, auxiliary engines, and "other paraphernalia pertaining to fishing vessels . . . a bridge reproduced to scale with a screen in front on which films of harbors, channels, and buoys could be projected by a camera connected to the wheel; decks built to resemble actual trawler and drifter decks, with winches, capstans, bollards, and fishing gear; and all modern methods of navigation and fish-detecting devices."

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MEXICAN WATERS OFF-LIMITS?--Keep your eye peeled south of the border--new fishing limitations may soon be coming.

The Mexican Chamber of Deputies, it is reported here, is getting ready to pass a law to limit commercial fishing rights in Mexican waters to Mexican citizens and corporations. Under the proposal, foreigners caught trespassing would be liable to heavy fines.

Bill Proposed to Regulate

SALT WATER FISHING

Both Sport and Commercial

A BILL to regulate salt water fishing (both sport and commercial fishing) is being sponsored before the California State legislature by Assemblyman Earl W. Stanley, Balboa Island.

Some fishing experts believe his bill, to create a salt water fishing committee within the Department of Fish and Game may be the long-sought answer to the over-fishing of coastal waters. It would provide proper fish conservation measures.

J. B. McNally, veteran harbor fish conservationist, thinks the Stanley plan has merit; it was drafted about the time McNally brought out his latest booklet, "The Tragedy of Our California Fishery."

The Stanley measure calls for a salt water fishing committee of seven members to advise the Fish and Game Commission "on matters relating to salt water fishing. Six members shall be appointed by the governor, two members to be persons who are engaged in, or connected with, commercial salt water fishing, two members who are salt water sport fishermen, one member who is a marine enforcement officer from the Fish and Game Department, and one member who is a biologist from the Fish and Game Department. The other member shall be the director of the Department of Fish and Game, who shall act as chairman of the committee."

An important feature of the proposed bill would be its delegation to the new State Commission of the power to regulate the taking of fish and game. It would change present laws to read:

"Any order of the commission pursuant to this article, which relates to fish, mollusks, crustaceans, amphibia, and reptiles may apply to all or any districts or portions thereof, at the discretion of the commission, and may do any or all of the following as to any or all species or varieties:

"(A) Establish, extend, shorten or abolish open seasons and closed seasons.

"(B) Establish and change or abolish bag limits, possession limits and size limits.

"(C) Establish and change territorial limits for the taking of any or all species or varieties.

"(D) Prescribe the manner and the means of taking any species or variety—provided, however, that any order of the commission relating to salt water fish or fishing shall be made only after due consideration of any advice of the salt water fishing committee on the subject."

The desire is for this legislation to empower the Fish and Game Commission for proper and equal regulation of sport fishing and commercial interests alike.

Frequently the sport and commercial fishermen have been at odds on methods for wise harvest of fish. Too much fishing by commercial interests has been periodically claimed and regularly denied. Another point is that marine biologists are able, through sampling coastal waters, to determine whether a particular fishing season will be good, bad, fair or excellent.

These predictions, while not 100% accurate, would serve as a guide to the committee. Where an area is being over-fished, for example, the committee could close it, and open others which are heavy with hungry fish.

Because anchovies and other small fare support the appetites of sardines and larger fish, the former could be protected by the commission through its staff's research of spawning. The salt water fishing committee, in advising the fish and game commission, would suggest which species of fish should be closed or opened.

Sponsors of this plan believe the state can protect its coastal fishery through wise conservation, yet allow the amateur and professional full fishing freedom under the new law where a normal fish supply is present. *

Gulf-of-Maine Bluefin Tuna Exploration

The third successive season of exploratory fishing for Gulf-of-Maine bluefin tuna was conducted from July 15 to October 15, 1953, and reported by J. J. Murphy, specialist with the Branch of Commercial Fisheries, U. S. Fish and Wildlife Service, Portland, Maine.

As in the previous year's work, long-line gear was used as the principal fishing method, with surface trolling lines, floating gill nets, and trammel nets as secondary gear. The long-line catch of tuna was much smaller than in the preceding years—only 38 tuna weighing 2,000 pounds (round weight) as compared to 12,000 pounds in 1952, and 190,000 pounds caught by purse seine in the 1951 exploration.

One reason for the small catch was that the start of the project was delayed until July 15 and a large early run of tuna was completely missed. Also, the catch of sharks was much greater, being 13 times the catch of tuna. Gill-net and trammel-net fishing produced no tuna. Nine tuna were caught on the surface trolling lines.

Though catches were small, bluefin tuna were taken over a wide area in the Gulf of Maine and adjacent waters as in the previous years.

An encouraging development noted in the 1951-53 seasons was the catching of sizable quantities of tuna by the New England otter-trawl fleet, incidental to trawling operations. The crews of many of these vessels found that tuna schools, attracted by small fish which escaped or were discarded from the trawls, would at times bite readily on improvised hand lines baited with herring, mackerel, or squid. Catch records show that 140,000 pounds of tuna caught by this method were landed at Boston and Gloucester in September and October 1951. Reported production from hand-line catches in 1953 amounted to 146,000 pounds.

This development indicates that a hook-and-line fishery, somewhat similar to the method used by Pacific tuna clippers, might be successfully applied to the New England tuna fishery.





The GLOBE

An International News
File Compiled from
FOREIGN REPORTS

Chile.—Special Conference on the Conservation of the Maritime Resources of the South Pacific was held in Santiago last month, with delegates from Chile, Peru, and Ecuador.

The Chilean Minister of Foreign Affairs, Roberto Aldunate Leon, in opening the conference said that "The right to proclaim our sovereignty over the maritime zone which extends 200 miles out from the coast is indisputable and inalienable" and stated that scientific and technical advances have outdated the old concept of three miles as the accepted extent of territorial waters.

Ecuador.—Both El Salvador and Paraguay will support the 200-mile territorial waters claims of Ecuador, Chile, and Peru, according to the Quito, Ecuador, press. The Minister of Foreign Relations of El Salvador was quoted as supporting the position taken for the conservation of fishery resources. The Paraguayan Minister of Education also announced support.

France.—The use of salt-water ice to preserve the catches of tuna vessels and trawlers operating out of ports on the Isle d'Yeu in France has been reported. A French firm built a plant for the manufacture of ice from sea water adjacent to this port and a year's tests of the efficacy of salt-water ice shows excellent results.

Iceland.—A trade and payments agreement between Iceland and Czechoslovakia signed by Reykjavik includes fish. The trade agreement is valid for a period of three years, subject to renegotiation annually, and provides for a considerable expansion of trade between the two countries. The principal commodity that Iceland will export is quick-frozen fish fillets—a total of 6,000 metric tons as against 3,000 tons provided for in the previous agreement.

Japan.—Japanese tuna long liners, fishing off Australia's eastern coast, have been getting large catches, including albacore, taken in the Tasman Sea midway between Australia and New Zealand. Within the last year the Japanese have extended their tuna fishing in the Pacific east to the Gilbert Islands, south to the Tasman Sea, and west around northern Australia into the Indian Ocean. Long lining is the method they use mainly. The Japanese work their boats in pairs, using one to haul and the other to bait. They relay the lines about every 10 to 12 hours, and work 24 hours a day.

Japan.—Total Japanese fisheries production for the first six months of 1954 amounted to 3,856 million pounds, a U.S. Embassy dispatch from Tokyo reports.

Only decline from previous year was in the catch of herring which was just half that for the same period of 1953.

According to the Japanese Customs Bureau, fish and fish products (excluding fish and whale oil and pearls) ranked third in value of all Japanese exports for the first half of 1954, with a total of \$34.2 million.

Japan.—The Japanese tuna fishing vessel Asama Maru left Tobata on October 8 with three smaller craft to fish for tuna in the vicinity of the Andaman Islands in the Indian Ocean. A goal of 1,120,000 pounds of tuna is hoped for, states a U.S. Embassy dispatch from Tokyo.

Japan.—The Japanese Fisheries Agency has adopted a policy to allow tuna fishing by vessels which gave up trawling as a condition of being permitted to engage in the salmon fishery. Now that the salmon season is over, these vessels are now looking for an off-season fishery. There are said to be about 80 vessels seeking to take up tuna fishing on a part-time basis, the Japanese press reports.

Norway.—The total tuna catch landed by Norwegian fishermen in the 1954 season amounted to 9,348 metric tons, as against 7,775 in 1953. Ex-vessel value was \$2.3 million reports a bulletin from the Norwegian Information Service.

Panama.—To operate in Panamanian territorial waters for fish and shrimp, Decree 172 provides that only fishing craft built in Panama may engage in commercial fishing operations within the territorial and jurisdictional waters of the Republic . . . except foreign-built vessels which fish for bait, exclusively, in the Pacific waters south of latitude 8° 30'N. Principal ports for Panama are in the Canal Zone. These are the ports of Balboa on the Pacific, and Cristobal on the Atlantic side.

Portugal.—The Portuguese fish canning industry has been suffering from a shortage of raw anchovies necessary for the production of canned anchovy fillets and anchovy stuffed olives, states a U.S. Embassy dispatch from Lisbon.

Venezuela.—Claiming a zone of 12 nautical miles offshore, the first 3-mile zone is reserved exclusively for Venezuelan-flag fishing vessels. The zone of nine nautical miles lying beyond the 3-mile territorial waters is not stipulated to be reserved exclusively to Venezuelan-flag fishing vessels, but foreign-flag vessels are not permitted to fish within that zone without a permit "for the purpose of protecting and preserving the fisheries."

Salmon Runs

Restoration of salmon runs to the Elwha river, near Port Angeles, appears to be possible within the next few years on a basis of downstream migrant research conducted at two power dams on the river by the Washington Department of Fisheries.

The Elwha has been blocked four miles from its mouth since construction of a 100-foot-high dam in 1910. Later a second dam 200 feet high was built upstream. In 1952 the department began a study of migrant mortalities associated with passage of small salmon over the spillways and through the turbines at the two structures. Two years of work shows that an average of from 62 to 94% of the migrants could be expected to survive at either dam.

At the upper dam, which has a free falling spill, 92% of the silver salmon yearlings and 94% of the chinook fingerlings survived the fall. By contrast, only 67% of the chinooks and 69% of the silvers were able to survive passage through the turbines.

At the lower dam, no measurable mortalities were found among chinooks using the turbine exit, but

only 62% of the fish survived passage through the contained channel type spillway.

Causes of death were associated chiefly with the abrupt pressure changes at the turbine discharge point, the physical impact of turbine parts, and the roughness and turbulence of the lower dam spillway chute.

Ultimately the research is aimed at rehabilitation of salmon runs to a variety of rivers in the Northwest, as well as solving fish passage problems at new power projects. Numerous rivers have dams behind which lie hundreds of miles of spawning and rearing grounds totally or wholly blocked to salmon.

Red Tide Research

Secretary of the Interior Douglas McKay has announced that a new research vessel was delivered to Ft. Myers, Florida, recently for use in studying ocean conditions which cause red tides, a marine plague that kills millions of fish in west coast Florida waters.

The vessel is being used to make routine surveys to locate concentrations of microorganisms and to experiment with control chemicals and

to pursue studies of ocean currents along the Florida coast.

Red tides result from rapid reproduction of a microbe called *Cydnodinium brevis*, which is so small that it is invisible to the human eye. Billions of these microscopic creatures color the sea water red or amber because of pigment in them.

Poisons, which are deadly to fish and other marine animals, are also produced. These are sometimes carried inland in tiny droplets and wind-borne spray causing persons in areas near the beaches to develop symptoms similar to a cold or severe respiratory irritation.

After a large outbreak in 1946-47 the Fish and Wildlife Service commenced biological studies to learn the principles underlying causes of red tides, with the aim of developing control or preventive measures. The studies to date indicate that they seem to occur after periods of heavy rain followed by light winds blowing toward the shore. The water, enriched by land drainage, is held along the coast, thus developing conditions suitable for rapid reproduction of the microorganisms. As fish are killed, their decaying bodies are believed to release nutrients to the waters. These nutrients may nourish the bloom and serve to intensify it.

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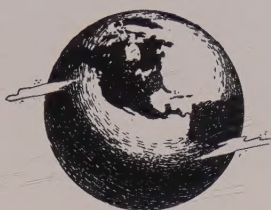
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